

RAW SEQUENCE LISTING

DATE: 06/10/2004

PATENT APPLICATION:

US/10/632,929

TIME: 20:11:44

Input Set : N:\Crf3\RULE60\10632929.txt
Output Set: N:\CRF4\06102004\J632929.raw

SEQUENCE LISTING

| | 3 | (1) GENE | RAL I | NFORMATION: |
|----|----------|------------|-------|------------------------------------------------|
| | 5 | (i) | APPL | ICANT: WALLACH, David |
| | 6 | | | BIGDA, Jacek |
| | 7 | | | BELETSKY, Igor |
| | 8 | | | METT, Igor |
| | 10 | (ii) | TITL | E OF INVENTION: THE LIGANDS |
| | 12 | (iii) | NUMB: | ER OF SEQUENCES: 17 |
| | 14 | (iv) | CORR | ESPONDENCE ADDRESS: |
| | 15 | | (A) | ADDRESSEE: BROWDY AND NEIMARK |
| | 16 | | (B) | STREET: 419 Seventh Street, N.W. |
| | 17 | | (C) | CITY: Washington |
| | 18 | | (D) | STATE: D.C. |
| | 19 | | (E) | COUNTRY: USA |
| | 20 | | (F) | ZIP: 20004 |
| | 22 | (v) | | JTER READABLE FORM: |
| | 23 | | (A) | MEDIUM TYPE: Floppy disk |
| | 24 | | | COMPUTER: IBM PC compatible |
| | 25 | | | OPERATING SYSTEM: PC-DOS/MS-DOS |
| | 26 | | | SOFTWARE: PatentIn Release #1.0, Version #1.25 |
| | 28 | (vi) | | ENT APPLICATION DATA: |
| C> | | | | APPLICATION NUMBER: US/10/632,929 |
| C> | - | | | FILING DATE: 04-Aug-2003 |
| | 31 | | | CLASSIFICATION: |
| | 40 | | | R APPLICATION DATA: |
| W> | | | | APPLICATION NUMBER: US/08/115,685 |
| | 35 | | | FILING DATE: 03-SEP-1993 |
| W> | | | | APPLICATION NUMBER: IL 103051 |
| | 38 | | - • | FILING DATE: 03-SEP-1992 |
| ₩> | | | | APPLICATION NUMBER: IL 106271 |
| | 42 | | | FILING DATE: 08-JUL-1993 |
| | 44 | (V111) | | RNEY/AGENT INFORMATION: |
| | 45 | | | NAME: Townsend, G. Kevin |
| | 46 | | | REGISTRATION NUMBER: 34,033 |
| | 47 | (;) | | REFERENCE/DOCKET NUMBER: WALLACH=10 |
| | 49 | • • | | COMMUNICATION INFORMATION: |
| | 50 | | | TELEPHONE: 202-628-5197 |
| | 51 | | | TELEFAX: 202-737-3528 |
| | 52 55 | (a) Thimai | ` ' | TELEX: 248633 |
| | 55 57 | • | | ON FOR SEQ ID NO: 1: |
| | 57 | | | ENCE CHARACTERISTICS: |
| | 58 | | , , | LENGTH: 58 amino acids |
| | 59 | | (B) | TYPE: amino acid |

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/632,929

DATE: 06/10/2004
TIME: 20:11:44

| 60 61 | | | | STI | | | | _ | le · | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------|
| 63 | | (ii) | | ECULI | | | | | | | | | | | | | | |
| 67 | | (xi) | | | | - | | | EQ II | OM C | . 1. | | | | | | | |
| 70 | | • | | | | | | | Gln | | | Asn | Val | Val | Δla | Tle | Pro | |
| 71 | | 1 | 0111 | Val | 1110 | 5 | 1111 | 111.5 | OIII | 110 | 10 | Abii | vai | Vai | HIU | 15 | 110 | • |
| 73 | | _ | Asn | Δla | Ser | | Asp | Δla | Val | Cvs | | Ser | Thr | Ser | Pro | | Val | |
| 74 | | | ***** | 1114 | 20 | 1100 | 1100 | **** | | 25 | 1 | | | | 30 | 1111 | 1 W 1 | |
| 76 | | Asp | Phe | Ala | | Pro | Val | Glv | Leu | | Cvs | Asn | Val | Val | | Ile | Pro | |
| 77 | | P | | 35 | | 0 | | | 40 | | | | | 45 | 0- | | | |
| 79 | | Glv | Asn | | Ser | Met | Asp | Ala | | Cvs | Thr | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 84 | | (i) | | JENCI | | _ | | | | | | | | | | | | |
| 85 | | | (A) |) LEI | NGTH | : 222 | 24 ba | ase p | pairs | 5 | | | | | | | | |
| 86 | | | (B) | TYI | PE: 1 | nucle | eic a | acid | - | | | | | | | | | |
| 87 | | | (C) | ST | RANDI | EDNES | SS: s | sing | le | | | | | | | | | |
| 88 | | | (D) | TO! | POLO | GY: | linea | ar | | | | | | | | | | |
| 90 | | (ii) | MOL | ECULI | E TY | PE: (| DNA | | | | | | | | | | | |
| 93 | | (ix) | FEAT | TURE: | | | | | | | | | | | | | | |
| 94 | | | (A) | NAI | ME/KI | ΞΥ: (| CDS | | | | | | | | | | | |
| 95 | | | (B) | LO(| CATIO | ON: 9 | 901 | L472 | | | | | | | | | | |
| 98 | | (xi) | SEQ | JENCI | E DES | SCRI | OITS | N: SI | EQ II | ON C | : 2: | · | | | | | | |
| 100 | GCGA | AGCG | CAG (| CGGA | GCCT | GG A | GAGA | AGGC | G CT | GGGC' | rgcg | AGG | GCGCC | GAG (| GGCG | CGAG | G G | 60 |
| 102 | CAGO | caca | 777 C | 7000 | | 70 0 | ~~~~ | | 7 ma | ~~~ | 000 | ama | ~~~ | ama | maa | $\alpha \alpha \alpha$ | | 111 |
| | | BODE | CAA (| | ACCCC | JG CC | CCGC | ACCC | ATG | GCG | CCC | GTC | GCC | GTC | TGG | GCC | | 113 |
| 103 | 02100 | 3000 | CAA (| CGGA | ACCCC | JG CC | CCGCA | ACCC | | _ | | _ | _ | _ | Trp | _ | | 113 |
| 103 104 | 02100 | 3000 | CAA (| CGGA | ACCCC | JG CC | CGCA | ACCC | | _ | | _ | _ | _ | | _ | | 113 |
| 104 | GCG | | | | | | · | | Met 1 | Ala | Pro | Val | Ala 5 | Val | Trp | Ala | | 161 |
| 104 106 | | CTG | GCC | GTC | GGA | CTG | GAG | CTC | Met 1 TGG | Ala | Pro GCG | Val GCG | Ala 5 CAC | Val GCC | Trp TTG | Ala CCC | | |
| 104 106 107 108 | GCG Ala | CTG Leu 10 | GCC Ala | GTC Val | GGA Gly | CTG Leu | GAG Glu 15 | CTC Leu | Met 1 TGG Trp | Ala GCT Ala | Pro GCG Ala | Val GCG Ala 20 | Ala 5 CAC His | Val GCC Ala | Trp TTG Leu | Ala CCC Pro | | 161 |
| 104 106 107 108 110 | GCG Ala GCC | CTG Leu 10 CAG | GCC Ala GTG | GTC Val GCA | GGA Gly TTT | CTG Leu ACA | GAG Glu 15 CCC | CTC Leu TAC | Met 1 TGG Trp | Ala GCT Ala CCG | Pro GCG Ala GAG | Val GCG Ala 20 CCC | Ala 5 CAC His | Val GCC Ala AGC | Trp TTG Leu ACA | Ala CCC Pro | | |
| 104 106 107 108 110 111 | GCG Ala GCC Ala | CTG Leu 10 CAG | GCC Ala GTG | GTC Val GCA | GGA Gly TTT | CTG Leu ACA Thr | GAG Glu 15 CCC | CTC Leu TAC | Met 1 TGG Trp | Ala GCT Ala CCG | Pro GCG Ala GAG Glu | Val GCG Ala 20 CCC | Ala 5 CAC His | Val GCC Ala AGC | Trp TTG Leu ACA | Ala CCC Pro TGC Cys | | 161 |
| 104 106 107 108 110 111 112 | GCG Ala GCC Ala 25 | CTG Leu 10 CAG Gln | GCC Ala GTG Val | GTC Val GCA Ala | GGA Gly TTT Phe | CTG Leu ACA Thr 30 | GAG Glu 15 CCC Pro | CTC Leu TAC Tyr | Met 1 TGG Trp GCC Ala | Ala GCT Ala CCG Pro | Pro GCG Ala GAG Glu 35 | Val GCG Ala 20 CCC Pro | Ala 5 CAC His GGG Gly | Val GCC Ala AGC Ser | Trp TTG Leu ACA Thr | Ala CCC Pro TGC Cys 40 | | 161 209 |
| 104 106 107 108 110 111 112 114 | GCG Ala GCC Ala 25 CGG | CTG Leu 10 CAG Gln | GCC Ala GTG Val | GTC Val GCA Ala GAA | GGA Gly TTT Phe | CTG Leu ACA Thr 30 TAT | GAG Glu 15 CCC Pro | CTC Leu TAC Tyr | Met 1 TGG Trp GCC Ala ACA | Ala GCT Ala CCG Pro GCT | Pro GCG Ala GAG Glu 35 CAG | Val GCG Ala 20 CCC Pro | Ala 5 CAC His GGG Gly | Val GCC Ala AGC Ser | Trp TTG Leu ACA Thr | Ala CCC Pro TGC Cys 40 AAA | | 161 |
| 104 106 107 108 110 111 112 114 115 | GCG Ala GCC Ala 25 | CTG Leu 10 CAG Gln | GCC Ala GTG Val | GTC Val GCA Ala GAA | GGA Gly TTT Phe TAC Tyr | CTG Leu ACA Thr 30 TAT | GAG Glu 15 CCC Pro | CTC Leu TAC Tyr | Met 1 TGG Trp GCC Ala ACA | Ala GCT Ala CCG Pro GCT Ala | Pro GCG Ala GAG Glu 35 CAG | Val GCG Ala 20 CCC Pro | Ala 5 CAC His GGG Gly | Val GCC Ala AGC Ser | Trp TTG Leu ACA Thr AGC Ser | Ala CCC Pro TGC Cys 40 AAA | | 161 209 |
| 104 106 107 108 110 111 112 114 115 116 | GCG Ala GCC Ala 25 CGG Arg | CTG Leu 10 CAG Gln CTC Leu | GCC Ala GTG Val AGA Arg | GTC Val GCA Ala GAA Glu | GGA Gly TTT Phe TAC Tyr 45 | CTG Leu ACA Thr 30 TAT Tyr | GAG Glu 15 CCC Pro GAC Asp | CTC Leu TAC Tyr CAG Gln | Met TGG Trp GCC Ala ACA Thr | Ala GCT Ala CCG Pro GCT Ala 50 | Pro GCG Ala GAG Glu 35 CAG Gln | Val GCG Ala 20 CCC Pro ATG Met | Ala 5 CAC His GGG Gly TGC Cys | Val GCC Ala AGC Ser TGC Cys | Trp TTG Leu ACA Thr AGC Ser 55 | Ala CCC Pro TGC Cys 40 AAA Lys | | 161 209 257 |
| 104 106 107 108 110 111 112 114 115 116 | GCG Ala GCC Ala 25 CGG Arg | CTG Leu 10 CAG Gln CTC Leu | GCC Ala GTG Val AGA Arg | GTC Val GCA Ala GAA Glu GGC | GGA Gly TTT Phe TAC Tyr 45 CAA | CTG Leu ACA Thr 30 TAT Tyr | GAG Glu 15 CCC Pro GAC Asp | CTC Leu TAC Tyr CAG Gln | Met TGG Trp GCC Ala ACA Thr GTC | Ala GCT Ala CCG Pro GCT Ala 50 TTC | Pro GCG Ala GAG Glu 35 CAG Gln TGT | Val GCG Ala 20 CCC Pro ATG Met | Ala 5 CAC His GGG Gly TGC Cys AAG | Val GCC Ala AGC Ser TGC Cys | Trp TTG Leu ACA Thr AGC Ser 55 TCG | Ala CCC Pro TGC Cys 40 AAA Lys GAC | | 161 209 |
| 104 106 107 108 110 111 112 114 115 116 118 119 | GCG Ala GCC Ala 25 CGG Arg | CTG Leu 10 CAG Gln CTC Leu | GCC Ala GTG Val AGA Arg | GTC Val GCA Ala GAA Glu GGC Gly | GGA Gly TTT Phe TAC Tyr 45 CAA | CTG Leu ACA Thr 30 TAT Tyr | GAG Glu 15 CCC Pro GAC Asp | CTC Leu TAC Tyr CAG Gln | Met TGG Trp GCC Ala ACA Thr GTC Val | Ala GCT Ala CCG Pro GCT Ala 50 TTC | Pro GCG Ala GAG Glu 35 CAG Gln TGT | Val GCG Ala 20 CCC Pro ATG Met | Ala 5 CAC His GGG Gly TGC Cys AAG | Val GCC Ala AGC Ser TGC Cys ACC Thr | Trp TTG Leu ACA Thr AGC Ser 55 TCG | Ala CCC Pro TGC Cys 40 AAA Lys GAC | | 161 209 257 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 | GCG Ala GCC Ala 25 CGG Arg TGC Cys | CTG Leu 10 CAG Gln CTC Leu TCG Ser | GCC Ala GTG Val AGA Arg CCG Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 | GGA Gly TTT Phe TAC Tyr 45 CAA Gln | CTG Leu ACA Thr 30 TAT Tyr CAT His | GAG Glu 15 CCC Pro GAC Asp GCA Ala | CTC Leu TAC Tyr CAG Gln AAA Lys | Met 1 TGG Trp GCC Ala ACA Thr GTC Val 65 | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys | Val GCG Ala 20 CCC Pro ATG Met ACC Thr | Ala 5 CAC His GGG Gly TGC Cys AAG Lys | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp | | 161 209 257 305 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 | GCG Ala GCC Ala 25 CGG Arg TGC Cys | CTG Leu 10 CAG Gln CTC Leu TCG Ser | GCC Ala GTG Val AGA Arg CCG Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC | GGA Gly TTT Phe TAC Tyr 45 CAA Gln | CTG Leu ACA Thr 30 TAT Tyr CAT His | GAG Glu 15 CCC Pro GAC Asp GCA Ala | CTC Leu TAC Tyr CAG Gln AAA Lys | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys | Val GCG Ala 20 CCC Pro ATG Met ACC Thr | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp | | 161 209 257 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 | GCG Ala GCC Ala 25 CGG Arg TGC Cys | CTG Leu 10 CAG Gln CTC Leu TCG Ser | GCC Ala GTG Val AGA Arg CCG Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC | GGA Gly TTT Phe TAC Tyr 45 CAA Gln | CTG Leu ACA Thr 30 TAT Tyr CAT His | GAG Glu 15 CCC Pro GAC Asp GCA Ala | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys | Val GCG Ala 20 CCC Pro ATG Met ACC Thr | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp | | 161 209 257 305 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 | GCG Ala GCC Ala 25 CGG Arg TGC Cys | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr | Val GCG Ala 20 CCC Pro ATG Met ACC Thr | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp AAC Asn | | 161209257305353 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 | GCG Ala GCC Ala 25 CGG Arg TGC Cys ACC Thr | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr | Val GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp AAC Asn | | 161 209 257 305 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 127 | GCG Ala GCC Ala 25 CGG Arg TGC Cys | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC Ser | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr | Val GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr TGT Cys | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp AAC Asn | | 161209257305353 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 127 128 | GCG Ala GCC Ala 25 CGG Arg TGC Cys ACC Thr | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val GTT Val 90 | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp GAG Glu | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser TGC Cys | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC Ser 95 | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT Cys | Met TGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC Gly | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr TCC Ser | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr CGC Arg | Val GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr TGT Cys 100 | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC Ser | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT Ser | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp GAC Asp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp AAC Asn CAG Gln | | 161 209 257 305 353 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 127 128 130 | GCG Ala GCC Ala 25 CGG Arg TGC Cys ACC Thr TGG Trp | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val GTT Val 90 GAA | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp GAG Glu CAA | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser TGC Cys | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys TTG Leu | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC Ser 95 ACT | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT Cys | Met ITGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC Gly GAA | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr TCC Ser CAG | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr CGC Arg | Val GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr TGT Cys 100 CGC | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC Ser ATC | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT Ser | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp GAC Asp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp ACC Asp TGC TGC TGC TGC TGC TGC TGC TGC TGC | | 161209257305353 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 127 128 130 131 | GCG Ala GCC Ala 25 CGG Arg TGC Cys ACC Thr TGG Trp | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val GTT Val 90 GAA | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC Pro | GTC Val GCA Ala GAA Glu GGC Gly 60 GAC Asp GAG Glu CAA | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser TGC Cys | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys TTG Leu TGC Cys | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC Ser 95 ACT | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT Cys | Met ITGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC Gly GAA | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr TCC Ser CAG | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr CGC Arg AAC Asn | Val GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr TGT Cys 100 CGC | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC Ser ATC | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT Ser | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp GAC Asp | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp ACC Asn CAG Gln TGC Cys | | 161 209 257 305 353 |
| 104 106 107 108 110 111 112 114 115 116 118 119 120 122 123 124 126 127 128 130 131 132 | GCG Ala GCC Ala 25 CGG Arg TGC Cys ACC Thr TGG Trp | CTG Leu 10 CAG Gln CTC Leu TCG Ser GTG Val GTT Val 90 GAA Glu | GCC Ala GTG Val AGA Arg CCG Pro TGT Cys 75 CCC Pro ACT Thr | GTC Val GCA Ala GAA Glu GGC GAC Asp GAG Glu CAA Gln | GGA Gly TTT Phe TAC Tyr 45 CAA Gln TCC Ser TGC Cys GCC Ala | CTG Leu ACA Thr 30 TAT Tyr CAT His TGT Cys TTG Leu TGC Cys 110 | GAG Glu 15 CCC Pro GAC Asp GCA Ala GAG Glu AGC Ser 95 ACT Thr | CTC Leu TAC Tyr CAG Gln AAA Lys GAC Asp 80 TGT Cys CGG Arg | Met ITGG Trp GCC Ala ACA Thr GTC Val 65 AGC Ser GGC Gly GAA Glu | Ala GCT Ala CCG Pro GCT Ala 50 TTC Phe ACA Thr TCC Ser CAG Gln | Pro GCG Ala GAG Glu 35 CAG Gln TGT Cys TAC Tyr CGC Arg AAC Asn 115 | GCG Ala 20 CCC Pro ATG Met ACC Thr ACC Thr TGT Cys 100 CGC Arg | Ala 5 CAC His GGG Gly TGC Cys AAG Lys CAG Gln 85 AGC Ser ATC Ile | Val GCC Ala AGC Ser TGC Cys ACC Thr 70 CTC Leu TCT Ser | Trp TTG Leu ACA Thr AGC Ser 55 TCG Ser TGG Trp GAC Asp ACC Thr | Ala CCC Pro TGC Cys 40 AAA Lys GAC Asp ACC Asn CAG Gln TGC Cys 120 | | 161 209 257 305 353 |

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DATE: 06/10/2004 PATENT APPLICATION: US/10/632,929 TIME: 20:11:44

| 135 136 | Arg | Pro | Gly | Trp | Tyr 125 | Cys | Ala | Leu | Ser | Lys 130 | Gln | Glu | Gly | Cys | Arg 135 | Leu | , | |
|------------|------------|-------|----------|-------------|----------------|------------|--------------|--------------|--------|------------|-------|-----|-------|-------|---------------|------|---|-------------|
| | TGC | GCG | CCG | CTG | | AAG | TGC | CGC | CCG | GGC | TTC | GGC | GTG | GCC | AGA | CCA | | 545 |
| | Cys | | | | | | | | | _ | _ | _ | _ | _ | | | | |
| 140 | • | | | 140 | | • | • | 3 | 145 | • | | • | | 150 | J | | | |
| 142 | GGA | ACT | GAA | AÇA | TCA | GAC | GTG | GTG | TGC | AAG | CCC | TGT | GCC | CCG | GGG | ACG | | 593 |
| | Gly | | | | | | | | | | | | | | | | | |
| 144 | _ | | 155 | | | | | 160 | _ | | | | 165 | | | | | |
| 146 | TTC | TCC | AAC | ACG | ACT | TCA | TCC | ACG | GAT | ATT | TGC | AGG | CCC | CAC | CAG | ATC | | 641 |
| 147 | Phe | Ser | Asn | Thr | Thr | Ser | Ser | Thr | Asp | Ile | Cys | Arg | Pro | His | Gln | Ile | | |
| 148 | | 170 | | | | | 175 | | | | | 180 | | | | | • | |
| 150 | TGT | AAC | GTG | GTG | GCC | ATC | CCT | GGG | AAT | GCA | AGC | ATG | GAT | GCA | GTC | TGC | | 689 |
| 151 | Cys | Asn | Val | Val | Ala | Ile | Pro | Gly | Asn | Ala | Ser | Met | Asp | Ala | Val | Cys | | |
| | 185 | | | | | 190 | | | | | 195 | | | | | 200 | | |
| | ACG | | | | | | | | | | | _ | | _ | | | | 737 |
| | Thr | Ser | Thr | Ser | | Thr | Arg | Ser | Met | | Pro | Gly | Ala | Val | | Leu | | |
| 156 | | | | | 205 | | ~~~ | _~~ | ~ | 210 | | ~~~ | ~~~ | | 215 | ~ | | 50 5 |
| | CCC | | | | | | | | | | | | | | | 4. | | 785 |
| | Pro | Gin | Pro | | ser | Tnr | Arg | ser | | HIS | Tnr | GIN | Pro | | Pro | GIU | | |
| 160 | aaa | 700 | 7. C/III | 220 | C(C) | 700 | 7 00 | maa | 225 | CTTC | CMC | CCA | 7 m.C | 230 | CCC | אממ | | 022 |
| | CCC | | | | | | | | | | • | | | | | | | 833 |
| 164 | Pro | sei | 235 | Ala | PIO | ser | TIIL | 240 | Pile | ьец | ьеи | PIO | 245 | ату | PIO | ser | | |
| | CCC | CCA | | CAA | CCC | ACC | αСт | | GAC | ጥጥር | CCT | СТТ | | CTTT | GGA | CTG | | 881 |
| | Pro | | _ | _ | _ | | _ | _ | | | _ | | | _ | _ | | | 001 |
| 168 | 110 | 250 | AIQ | OIG | O _I | DCI | 255 | OT Y | 1100 | 1,110 | 111 a | 260 | 110 | • • • | | 200 | | |
| | ATT | | GGT | GTG | ACA | GCC | | GGT | CTA | CTA | ATA | | GGA | GTG | GTG | AAC | | 929 |
| | Ile | | | | _ | | | _ | | | _ | _ | - | _ | _ | | | |
| | 265 | | | | | 270 | | 4 | | | 275 | | • | | | 280 | | |
| 174 | TGT | GTC | ATC | ATG | ACC | CAG | GTG | AAA | AAG | AAG | CCC | TTG | TGC | CTG | CAG | AGA | | 977 |
| 175 | Cys | Val | Ile | Met | Thr | Gln | Val | Lys | Lys | Lys | Pro | Leu | Cys | Leu | Gln | Arg | | |
| 176 | | | | | 285 | | | | | 290 | - | | | | 295 | | | |
| 178 | GAA | GCC | AAG | GTG | CCT | CAC | TTG | CCT | GCC | GAT | AAG | GCC | CGG | GGT | ACA | CAG | 1 | 025 |
| 179 | Glu | Ala | Lys | Val | Pro | His | Leu | Pro | Ala | Asp | Lys | Ala | Arg | Gly | Thr | Gln | | |
| 180 | | • | | 300 | | • | | | 305 | | | | | 310 | | | | |
| | GGC | | | | | | | | _ | | | | | | | | 1 | .073 |
| | Gly | Pro | | Gln | Gln | His | Leu | | Ile | Thr | Ala | Pro | | Ser | Ser | Ser | | |
| 184 | | | 315 | | | | | 320 | | | | | 325 | ~~~ | ~~~ | - am | - | |
| | AGC | | | | | | | | | | | | | | | | 1 | .121 |
| | Ser | | Leu | GIU | ser | ser | | ser | Ala | Leu | Asp | _ | Arg | Ala | Pro | Thr | | |
| 188 | aaa | 330 | an a | | 07.0 | CON | 335 | aaa | ama | | aaa | 340 | aaa | aaa | aaa | an a | 1 | 160 |
| | CGG | | | | | | | | | | _ | | | | _ | _ | 1 | 169 |
| | Arg | ASN | GTII | LT.O | GTII | | LT.O | σтλ | val | GIU | | ser | GTÀ | ATG | ату | 360 | | |
| | 345 GCC | CCC | ccc | אממ | 700 | 350 GGG | אממ | ጥ ር አ | C N TT | ጥርጥ | 355 | CCM | പ്രവ | CCC | (⁻¹) ™ | | 1 | 217 |
| | | | | | | | | | | | | | | | | | 1 | . Z. J. / |
| 195 | Ala | ALY | ATA | ner | 365 | GTÀ | Ω <u>∈</u> T | ner | Hah | 370 | DOT | LTO | GT Å | GTÅ | 375 | OTA | | |
| | ACC | CAG | ርጥር | <u>አ</u> አጥ | | מככ | ጥሮር | Δ·ΤΓ | СПС | Ī | כידיר | ጥርተ | AGC | אמר | | GAC | 1 | .265 |
| | Thr | | | | | | | | | | _ | | | | | | _ | 0 |
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| 200 | | | | 380 | | | | | 385 | | | | | 390 | | | | | |
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-----------|----------------------------------------------|-----------|------------|-----|
| 202 | CAC | 7 CC | ጥርል | | ጥርር | ጥሮሮ | ጥርር | CDD | | AGC | ጥርር | ΔΩΔ | ΔͲሮ | | GAC | מרמ | | 131 | 13 |
| | His | | | | | | | | | | | | | | | | | | |
| 204 | 1115 | DCI | 395 | OIII | Cys | OCI | DCI | 400 | 1114 | | | | 405 | | 1101 | | | - | |
| | GAT | ፐሮሮ | | CCC | ፐርር | GAG | TCC | | AAG | GAC | GAG | CAG | | CCC | ттС | TCC | | 136 | 61 |
| | Asp | | | | | | | | | | | | | | | | | 130 | _ |
| 208 | мър | 410 | DCI | 110 | DCL | Olu | 415 | 110 | шуы | 11DP | OIU | 420 | Val | 110 | 1110 | | | | |
| | AAG | | GAA | тст | GCC | սար | | тсъ | CAG | ርፐር | GAG | | CCA | GAG | ACC | СТС | | 14(| 0.9 |
| | Lys | | | | | | | | | | | | | | | | | | |
| | 425 | O_C | 014 | o _I b | 1110 | 430 | 3 | | 02 | | 435 | | | | | 440 | | | |
| | CTG | GGG | AGC | ACC | GAA | | AAG | CCC | CTG | CCC | | GGA | GTG | CCT | GAT | GCT | | 145 | 57 |
| | Leu | | | | | | | | | | | | | | | | | | |
| 216 | | - 1 | ~~- | | 445 | | -1- | | | 450 | | 1 | | | 455 | | | | |
| | GGG | ATG | AAG | CCC | | TAAC | CCAG | GCC (| GGTG | | CT G | rgtco | GTAG | C CA | | GGC | | 151 | 12 |
| | Gly | | | | | | | | | | | | | | | | | | |
| 220 | | | 272 | 460 | ~~~ | | | | | | | | | | | | | | |
| | TGAG | GCCC' | rgg (| | ATGA | CC C | rgcga | AAGG | G GC | CCTG | GTCC | TTC | CAGG | CCC (| CCAC | CACT | AG | 157 | 72 |
| | GAC | | | | | | | | | | | | | | | | | 163 | 32 |
| | CTG | | | | | | | | | | | | | | | | | 169 | 92 |
| 228 | | | | GAAG | | | | | | | | | | | | | | 179 | 52 |
| 230 | CTC | | | | | | | | | | | | | | | | | 183 | 12 |
| 232 | TTT | rtgt: | rtg : | rttg: | rttg: | T T | GTTT(| GTTT(| G TT | rcrc(| CCCC | TGG | GCTC' | rgc (| CCAG | CTCT | GG | 187 | 72 |
| | CTT | | | | | | | | | | | | | | | | | 193 | 32 |
| 236 | CCTC | GAGT(| CAC (| CCAT | SAAGA | AC AC | GGAC | AGTG | C TT | CAGC | CTGA | GGC' | rgagz | ACT (| GCGG | GATG | GT | 199 | 92 |
| 238 | CCT | GGGG | CTC : | rgrg: | ragg(| SA GO | GAGG' | rggcz | A GC | CCTG: | ragg | GAA | CGGG | GTC (| CTTC | AAGT | TA | 205 | 52 |
| 240 | GCT | CAGG | AGG (| CTTG | SAAA(| C A | CAC | CTCA | G GC | CAGG: | rgca | GTG | GCTC | ACG (| CCTA! | rgat | CC | 21: | 12 |
| | | | | | | 00 | יכככי | rgga: | r CA | CCTGA | AGGT | TAG | GAGT | rcg z | AGAC | CAGC | СТ | | |
| 242 | CAG | CACT | rtg (| GGAG(| SCTG | 10 U | DDD. | | | | | | | | | | ÇΙ | 217 | 12 |
| | CAGO | | | | | | | ract. | AAA A | ATA/ | CAGA | AAT | ragc(| CGG (| | | C1 | 21° 222 | |
| | GGC | CAAC | ATG (| | AACC | CC A | rctc: | | | ATA | CAGA | AAT | ragco | CGG (| | | Ç1 | | |
| 244 | GGC(| CAAC | ATG (| STAAZ | AACC(FOR | CC AT | CTC: | 10: | 3: | ATA | CAGA | AAT | ragc(| CGG (| | | C1 | | |
| 244 247 | GGC(| CAAC | ATG (DRMA:) SE(| GTAAA FION | AACCO FOR CE CI | CC AT SEQ HARAG | CTCT ID I | NO: 3 | 3: CS: | | CAGA | AAT | ragc(| CGG (| | | | | |
| 244 247 249 | GGC(| CAAC | ATG (DRMA:) SE(| GTAAZ FION QUENC | AACCO FOR CE CI ENGTI | CC AT SEQ HARAG H: 46 | CTC: ID I CTER: 51 ar | NO: 3 ISTIC | 3: CS: | | CAGA | AAT. | ragc(| CGG (| | | | | |
| 244 247 249 250 | GGC(| CAAC | ATG (DRMA: SE(() | GTAAI FION QUENG A) LI | AACCO FOR CE CI ENGTI (PE: | SEQ HARAG H: 46 | ICTC: ID I CTER: 51 ar | NO: 3 ISTIC mino cid | 3: CS: | | CAGA | AAT. | ragc(| CGG (| | | | | |
| 244 247 249 250 251 | GGC(| CAACA INFO | ATG (DRMA:) SE(() () | GTAAA FION QUENC A) LI B) T | AACCO FOR CE CI ENGTI (PE: | SEQ HARAG H: 46 amir | ICTC: ID I CTER: 10 ac 10 ac 11 ac | NO: 3 ISTIC mino cid car | 3: CS: | | CAGA | AAT. | ragc(| CGG (| | | | | |
| 244 247 249 250 251 252 | GGC(| CAACA INFO (i) | ATG () ORMA: | GTAAM FION QUENC A) LI B) TY | AACCO FOR CE CH ENGTH (PE: OPOLO LE T | SEQ HARAG H: 46 amin OGY: | ICTC: ID I CTER: 10 ac 1 inc | NO: 3 ISTIC mino cid ear tein | 3: CS: acid | is | | | ragc(| CGG (| | | | | |
| 244 247 249 250 251 252 254 256 | GGC(| CAACA INFO (i) (ii) | ATG () ORMA: | GTAAM PION QUENC A) LI B) TO C) TO LECUI | AACCO FOR CE CH ENGTH OPOLO LE TY | SEQ HARAG H: 46 amin OGY: CPE: | ICTC: ID I CTER: 10 ac 1 inc prot | NO: 3 ISTIC mino cid ear tein | 3: CS: acid | ds ID N O | O: 3: | • | | | GC | | | | |
| 244 247 249 250 251 252 254 256 | GGC(| CAACA INFO (i) (ii) | ATG () ORMA: | GTAAM PION QUENC A) LI B) TO C) TO LECUI | AACCO FOR CE CH ENGTH OPOLO LE TY | SEQ HARAG H: 46 amin OGY: CPE: | ICTC: ID I CTER: 10 ac 1 inc prot | NO: 3 ISTIC mino cid ear tein | 3: CS: acid | ds ID N O | O: 3: | • | | | GC | | | | |
| 244 247 249 250 251 252 254 256 258 259 | GGCC (2) | CAACA INFO (i) (ii) (xi) Ala | ATG () SE() (I) (I) MOI SE() Pro | GTAAA FION QUENC A) LI B) TO CECUI QUENC Val | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala | SEQ HARAG H: 46 amin OGY: VPE: Val | ICTC: ID I CTER: 10 ac line prot IPTIC | NO: 3 ISTIC mino cid ear tein ON: 8 Ala | 3: CS: acio | is ID NO Leu 10 | O: 3: Ala | : Val | Gly | Leu | Glu 15 | Leu | | | |
| 244 247 249 250 251 252 254 256 258 259 | GGCC (2) | CAACA INFO (i) (ii) (xi) Ala | ATG () SE() (I) (I) MOI SE() Pro | GTAAA FION QUENC A) LI B) TO CECUI QUENC Val | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala | SEQ HARAG H: 46 amin OGY: VPE: Val | ICTC: ID I CTER: 10 ac line prot IPTIC | NO: 3 ISTIC mino cid ear tein ON: 8 Ala | 3: CS: acio | is ID NO Leu 10 | O: 3: Ala | : Val | Gly | Leu | Glu 15 | Leu | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 | GGCC (2) | CAACA INFO (ii) (ii) (xi) Ala Ala | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| GTAAM FION QUENCA) LI B) TO CECUI QUENC Val Ala 20 | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala 5 His | SEQ HARAG H: 46 amin OGY: VPE: Val Ala | ICTC: ID I CTER: 10 ac line prot IPTIC Trp Leu | NO: 3 ISTICATION Cidear tein ON: 5 Ala Pro | SEQ Ala Ala | ds ID NO Leu 10 Gln | D: 3 Ala Val | : Val Āla | Gly Phe | Leu Thr | Glu 15 Pro | Leu Tyr | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 | GGCC (2) Met 1 Trp | CAACA INFO (ii) (ii) (xi) Ala Ala | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| GTAAM FION QUENCA) LI B) TO CECUI QUENC Val Ala 20 | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala 5 His | SEQ HARAG H: 46 amin OGY: VPE: Val Ala | ICTC: ID I CTER: 10 ac line prot IPTIC Trp Leu | NO: 3 ISTICATION Cidear tein ON: 5 Ala Pro | SEQ Ala Ala | ds ID NO Leu 10 Gln | D: 3 Ala Val | : Val Āla | Gly Phe | Leu Thr | Glu 15 Pro | Leu Tyr | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 | GGCC (2) Met 1 Trp | CAACA INFO (ii) (ii) Ala Ala Pro | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA TION QUENCA) LI B) TO CONTROL Val Ala 20 Pro | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala 5 His | SEQ HARAG H: 46 amin OGY: VPE: Val Ala Ser | ICTC: ID I CTER: 10 ac line prot IPTIC Trp Leu Thr | NO: 3 ISTIC mino cid ear tein ON: 5 Ala Pro Cys 40 | SEQ Ala Ala 25 Arg | ds ID NO Leu 10 Gln Leu | D: 3 Ala Val Arg | : Val Ala Glu | Gly Phe Tyr 45 | Leu Thr 30 Tyr | Glu 15 Pro Asp | Leu Tyr Gln | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 | Met 1 Trp | CAACA INFO (ii) (ii) Ala Ala Pro | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA TION QUENCA) LI B) TO CONTROL Val Ala 20 Pro | AACCO FOR CE CH ENGTH OPOLO LE TY CE DI Ala 5 His | SEQ HARAG H: 46 amin OGY: VPE: Val Ala Ser | ICTC: ID I CTER: 10 ac line prot Trp Leu Thr | NO: 3 ISTIC mino cid ear tein ON: 5 Ala Pro Cys 40 | SEQ Ala Ala 25 Arg | ds ID NO Leu 10 Gln Leu | D: 3 Ala Val Arg | : Val Ala Glu | Gly Phe Tyr 45 | Leu Thr 30 Tyr | Glu 15 Pro Asp | Leu Tyr Gln | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 267 268 | Met 1 Trp | CAACA INFO (ii) (iii) Ala Ala Pro Ala 50 | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA TION QUENC A) LI B) TO LECUI QUENC Val Ala 20 Pro Met | AACCO FOR CE CH ENGTH OPOLO LE TO CE DI Ala 5 His Gly | SEQ HARAG H: 46 amin OGY: VPE: Val Ala Ser Cys | ICTC: ID I CTER: 51 and 1 ind prod IPTIC Trp Leu Thr Ser 55 | NO: 3 ISTIC mino cid ear tein ON: 3 Ala Pro Cys 40 Lys | SEQ Ala Ala 25 Arg | ds ID NO Leu 10 Gln Leu Ser | O: 3 Ala Val Arg Pro | Val Ala Glu Gly 60 | Gly Phe Tyr 45 Gln | Leu Thr 30 Tyr | Glu 15 Pro Asp Ala | Leu Tyr Gln Lys | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 267 268 | Met 1 Trp Ala | CAACA INFO (ii) (iii) Ala Ala Pro Ala 50 | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA TION QUENC A) LI B) TO LECUI QUENC Val Ala 20 Pro Met | AACCO FOR CE CH ENGTH OPOLO LE TO CE DI Ala 5 His Gly | SEQ HARAG H: 46 amin OGY: VPE: Val Ala Ser Cys | ICTC: ID I CTER: 51 and 1 ind prod IPTIC Trp Leu Thr Ser 55 | NO: 3 ISTIC mino cid ear tein ON: 3 Ala Pro Cys 40 Lys | SEQ Ala Ala 25 Arg | ds ID NO Leu 10 Gln Leu Ser | O: 3 Ala Val Arg Pro | Val Ala Glu Gly 60 | Gly Phe Tyr 45 Gln | Leu Thr 30 Tyr | Glu 15 Pro Asp Ala | Leu Tyr Gln Lys | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 267 268 270 | Met 1 Trp Ala Thr Val 65 | (ii) (ii) (ii) (xi) Ala Ala Pro Ala 50 Phe | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA TION QUENC A) LI B) TO LECUI QUENC Val Ala 20 Pro Met | AACCO FOR CE CH CENGTH CPOLO LE TY CE DI Ala 5 His Gly Cys | SEQ HARAGE: 46 amir OGY: VPE: Val Ala Ser Cys Thr | ICTC: ID I CTER: 51 and 10 acc 1 income PTIC Trp Leu Thr Ser 55 Ser | NO: 3 ISTIC mino cid ear tein ON: 3 Ala Pro Cys 40 Lys Asp | SEQ Ala Ala 25 Arg Cys | ds ID NO Leu 10 Gln Leu Ser Val | O: 3 Ala Val Arg Pro Cys 75 | Val Ala Glu Gly 60 Asp | Gly Phe Tyr 45 Gln Ser | Leu Thr 30 Tyr His | Glu 15 Pro Asp Ala Glu | Leu Tyr Gln Lys Asp | | | |
| 244 247 249 250 251 252 254 256 258 259 261 262 264 265 267 268 270 271 | Met 1 Trp Ala Thr Val 65 | (ii) (ii) (ii) (xi) Ala Ala Pro Ala 50 Phe | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TTAAM TION QUENCA) LI B) TO COUNTY CO | AACCO FOR CE CH CENGTH CPOLO LE TY CE DI Ala 5 His Gly Cys | SEQ HARAGE: 46 amir OGY: VPE: Val Ala Ser Cys Thr | ICTC: ID I CTER: 51 and 10 acc 1 income PTIC Trp Leu Thr Ser 55 Ser | NO: 3 ISTIC mino cid ear tein ON: 3 Ala Pro Cys 40 Lys Asp | SEQ Ala Ala 25 Arg Cys | ds ID NO Leu 10 Gln Leu Ser Val | O: 3 Ala Val Arg Pro Cys 75 | Val Ala Glu Gly 60 Asp | Gly Phe Tyr 45 Gln Ser | Leu Thr 30 Tyr His | Glu 15 Pro Asp Ala Glu | Leu Tyr Gln Lys Asp | | | |
| 244 247 249 250 251 252 254 256 259 261 262 264 265 267 268 270 271 273 274 | Met 1 Trp Ala Thr Val 65 | (ii) (ii) (ii) (xi) Ala Ala Pro Ala 50 Phe Thr | ATG (ATG (ATG (ATG (ATG (ATG (ATG (ATG (| TAAA FION QUENCA) LI B) TO CECUI QUENC Val Ala 20 Pro Met Thr | AACCO FOR CE CH CENGTH CPE: CPOLO Ala 5 His Gly Cys Lys Gln 85 | SEQ HARAGE: 46 amir OGY: VPE: Val Ala Ser Cys Thr 70 Leu | ICTC: ID I CTER: 51 and 1 ind prod IPTIC Trp Leu Thr Ser 55 Ser Trp | NO: 3 ISTIC mino cid ear tein ON: 3 Ala Pro Cys 40 Lys Asp Asn | SEQ Ala Ala Ala 25 Arg Cys Thr | ds ID NO Leu 10 Gln Leu Ser Val Val 90 | O: 3 Ala Val Arg Pro Cys 75 Pro | Val Ala Glu Gly 60 Asp Glu | Gly Phe Tyr 45 Gln Ser Cys | Leu Thr 30 Tyr His Cys | Glu 15 Pro Asp Ala Glu Ser 95 | Leu Tyr Gln Lys Asp 80 Cys | | | |

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| 279 280 | | Gln | Asn 115 | Arg | Ile | Cys | Thr | Cys 120 | Arg | Pro | Gly | Trp | Tyr 125 | Cys | Ala | Leu |
|------------|-------|------------|------------|------------|------------------|-----------|------------|------------|------------|-----------|-------|----------------------|------------|------------|----------|------------|
| | Ser | Lys 130 | | Glu | Gly | Cys | Arg 135 | | Cys | | Pro | Leu 140 | Arg | Lys | Cys | Arg |
| | | | Phe | Gly | Val | Ala | Arg | | | | Glu | Thr | Ser | Asp | Val | Val |
| 286 | 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| 288 | Cys | Lys | Pro | Cys | | Pro | Gly | Thr | Phe | | Asn | Thr | Thr | Ser | | Thr |
| 289 | _ | 7 | | _ | 165 | ' | ~ 7 | | ~ | 170 | | ~~ 7 | | | 175 | ~7 |
| | Asp | | _ | Arg 180 | Pro | His | Gln | He | Cys 185 | Asn | Val | Val | Ala | 11e 190 | Pro | GIY |
| | | | | Met | Asp | Ala | Val | Cvs | | Ser | Thr | Ser | Pro | | Arq | Ser |
| 295 | | | 195 | | | | | 200 | | | | | 205 | | ~ | |
| 297 | Met | Ala | Pro | Gly | Ala | Val | His | Leu | Pro | Gln | Pro | Val | Ser | Thr | Arg | Ser |
| 298 | | 210 | | | | | 215 | | | | | 220 | | | | |
| 300 | Gln | His | Thr | Gln | Pro | Thr | Pro | Glu | Pro | Ser | Thr | Ala | Pro | Ser | Thr | Ser |
| | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| | | Leu | Leu | Pro | | Gly | Pro | Ser | Pro | | | | - | Ser | | Gly |
| 304 | | 51 | - 7 | - | 245 | ~~ 7 | ~ 1 | - | - 1 | 250 | | ** . 7 | | 7. T | 255 | a 1 |
| | Asp | Pne | Ala | Leu | | | - | | | | | vai | Tnr | | Leu | GIY |
| 307 | T 011 | T 011 | т1. | 260 | | T/al | | | 265 | ₩. | | Mot | Thr | 270 | t/al | Two |
| 310 | теп | ьeu | 275 | Ile | _ | Val | | | Cys | | | | 285 | GIII | val | цуъ |
| | Lvs | Tays | | Leu | | | | | | | | | | His | Len | Pro |
| 313 | цуб | 290 | 110 | 200 | C _I D | Lou | 295 | _ | | | 272 | 300 | 110 | | 200 | |
| | Ala | | Lys | Ala | Arq | Gly | | | | | Glu | | Gln | His | Leu | Leu |
| | 305 | - | • | | - | 310 | | | - | | 315 | | | | | 320 |
| 318 | Ile | Thr | Ala | Pro | Ser | Ser | Ser | Ser | Ser | Ser | Leu | Glu | Ser | Ser | Ala | Ser |
| 319 | | | | | 325 | | | | | 330 | | | | | 335 | • |
| 321 | Ala | Leu | Asp | Arg | Arg | Ala | Pro | Thr | Arg | Asn | Gln | Pro | Gln | Ala | Pro | Gly |
| 322 | _ | _ | _ | 340 | _ | _ | | | 345 | | | | | 350 | | _ |
| | Val | Glu | | Ser | Gly | Ala | Gly | | Ala | Arg | Ala | Ser | | Gly | Ser | Ser |
| 325 | 7 | O | 355 | D | 0 7 | 01 | 77.5 | 360 | m\ | ~1 | *** 7 | 70 | 365 | mla na | C | 777 |
| | _ | | ser | Pro | GIY | GIY | | GIY | Thr | GIII | | 380 | val | THE | Cys | тте |
| 328 | | 370 | T = I | Cys | Sar | Sar | 375 | Agn | Hic | Cor | | | Cve | Ser | Ser | Gln |
| | 385 | ASII | vai | СуБ | DCI | 390 | Der | АБР | 111.5 | DCI | 395 | OIII | СУБ | DCI | DCI | 400 |
| | | Ser | Ser | Thr | Met | | Asp | Thr | Asp | Ser | | Pro | Ser | Glu | Ser | |
| 334 | | | | | 405 | | | | | 410 | | | | | 415 | |
| | Lys | Asp | Glu | Gln | | Pro | Phe | Ser | Lys | Glu | Glu | Cys | Ala | Phe | Arg | Ser |
| 337 | - | - | | 420 | | | | | 425 | | | Ī | | 430 | | |
| 340 | Gln | Leu | Glu | Thr | Pro | Glu | Thr | Leu | Leu | Gly | Ser | Thr | Glu | Glu | Lys | Pro |
| 341 | • | | 435 | | | | | 440 | | | | | 445 | | | |
| 343 | Leu | Pro | Leu | Gly | Val | Pro | Asp | Ala | Gly | Met | Lys | Pro | Ser | | | |
| 344 | | 450 | | | | | 455 | | | | | 460 | | | | |
| 346 | (2) | | | rion | | | | | | | | | | | | |
| 348 | | (i) | | QUENC | | | | | | | | | | | | |
| 349 | | | | A) LI | | | | _ | | 5 | | | | | | |
| 350 | | | | 3) TY | | | | | | | | | | | | |
| 351 | | | ((| C) SI | KANI | NEDNE | 255: | sing | Эте | | | | | | | |